

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) An electropolishing apparatus comprising:

a rotatable polishing surface plate including a cathode;

a polishing pad disposed on said polishing surface plate, to be impregnated with an electropolishing liquid, and showing electric conduction from the face side to the back side thereof when impregnated with said electropolishing liquid;

a substrate holding unit which holds a work substrate with a work surface of said work substrate opposed to a polishing surface of said polishing pad, said substrate holding unit rotatably disposed at a position opposed to said polishing pad, an outer circumferential portion of said work surface disposed outside of said polishing surface of said polishing pad;

an anode to be brought into contact with said work surface of said work substrate held by said substrate holding unit;

a chemical liquid supply unit which can supply a chemical liquid polish onto said polishing pad as said electropolishing liquid onto a substantially central axial portion of said polishing pad so that said chemical liquid polish impregnates said polishing pad while moving in an outer circumferential direction of said polishing pad during rotation thereof and towards said substrate holding unit; and

a power source which can supply electric power across said cathode and said anode.

2. (Previously Presented) The electropolishing apparatus as set forth in claim 1, wherein said chemical liquid supply unit comprises:

a chemical liquid control unit which can individually control the quantities of said electropolishing liquid, as well as free abrasive grains, and pure water; and

at least one unit configured to supply said electropolishing liquid, said free abrasive grains, and pure water in the quantities controlled by said chemical liquid control unit.

3. (Previously Presented) The electropolishing apparatus as set forth in claim 1, further comprising:

a cup capable of receiving the chemical liquid polish discharged from the top of said polishing pad, said cup surrounding a periphery of said polishing surface plate and extending under a bottom side of said polishing surface plate, and

a chemical liquid discharge unit provided in said cup at a position lower than said polishing surface plate and configured to extract said chemical liquid polish from said cup.

4. – 6. (Cancelled)